

FIG. 1

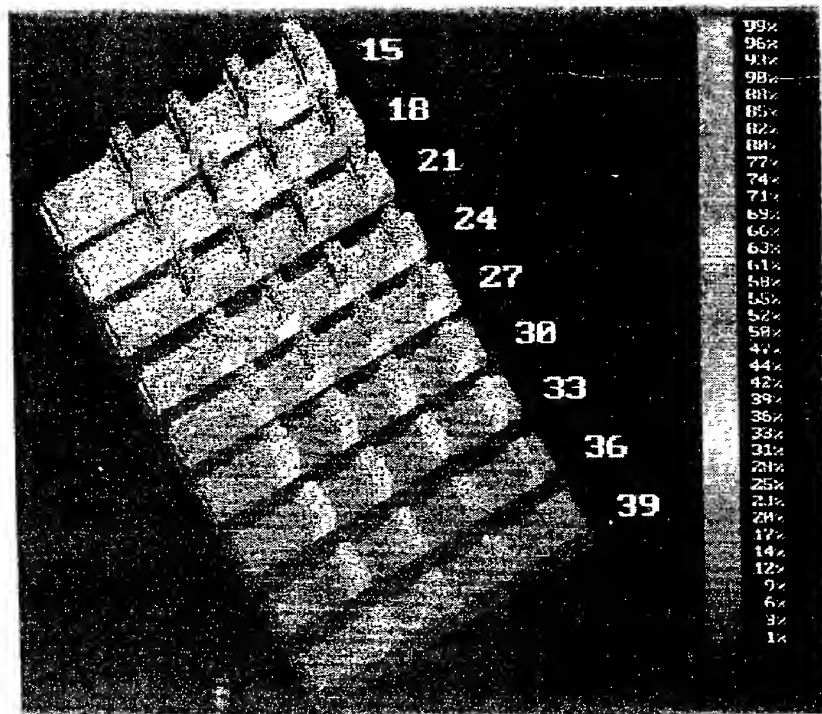


FIG. 2

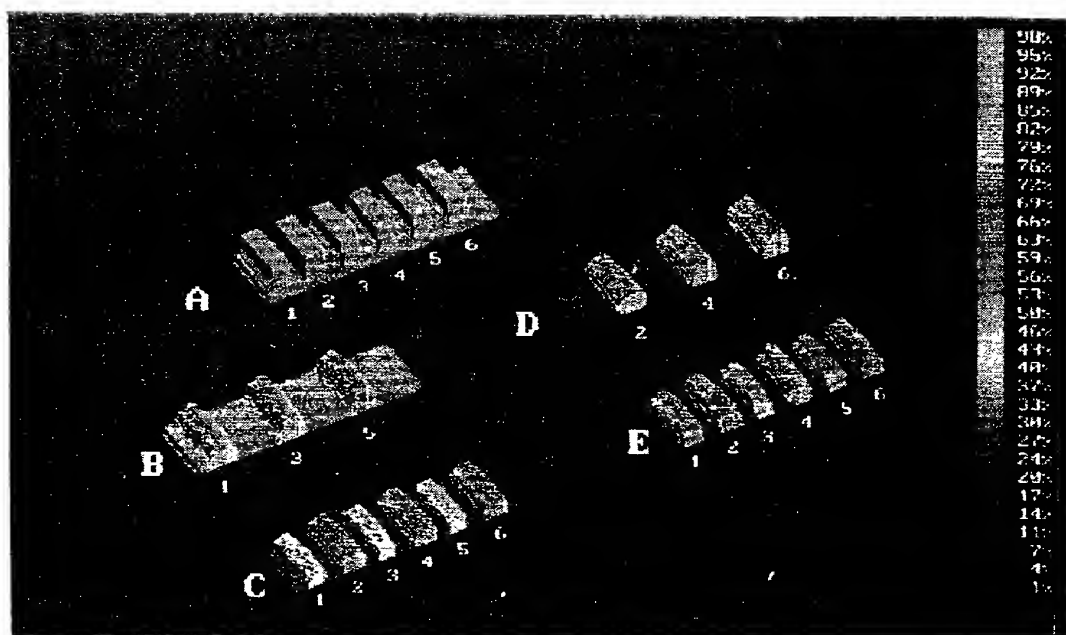


FIG. 3

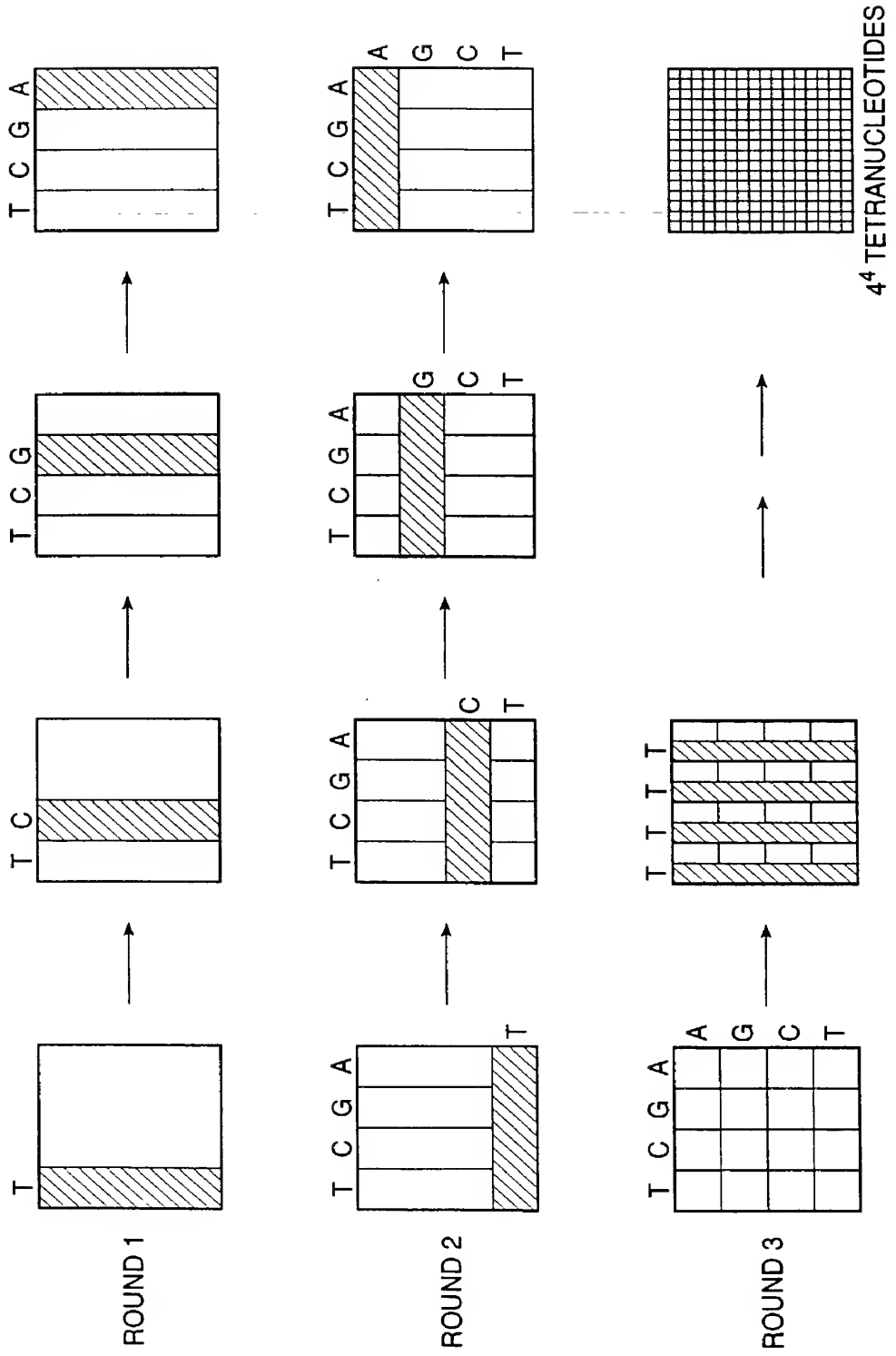


FIG. 4

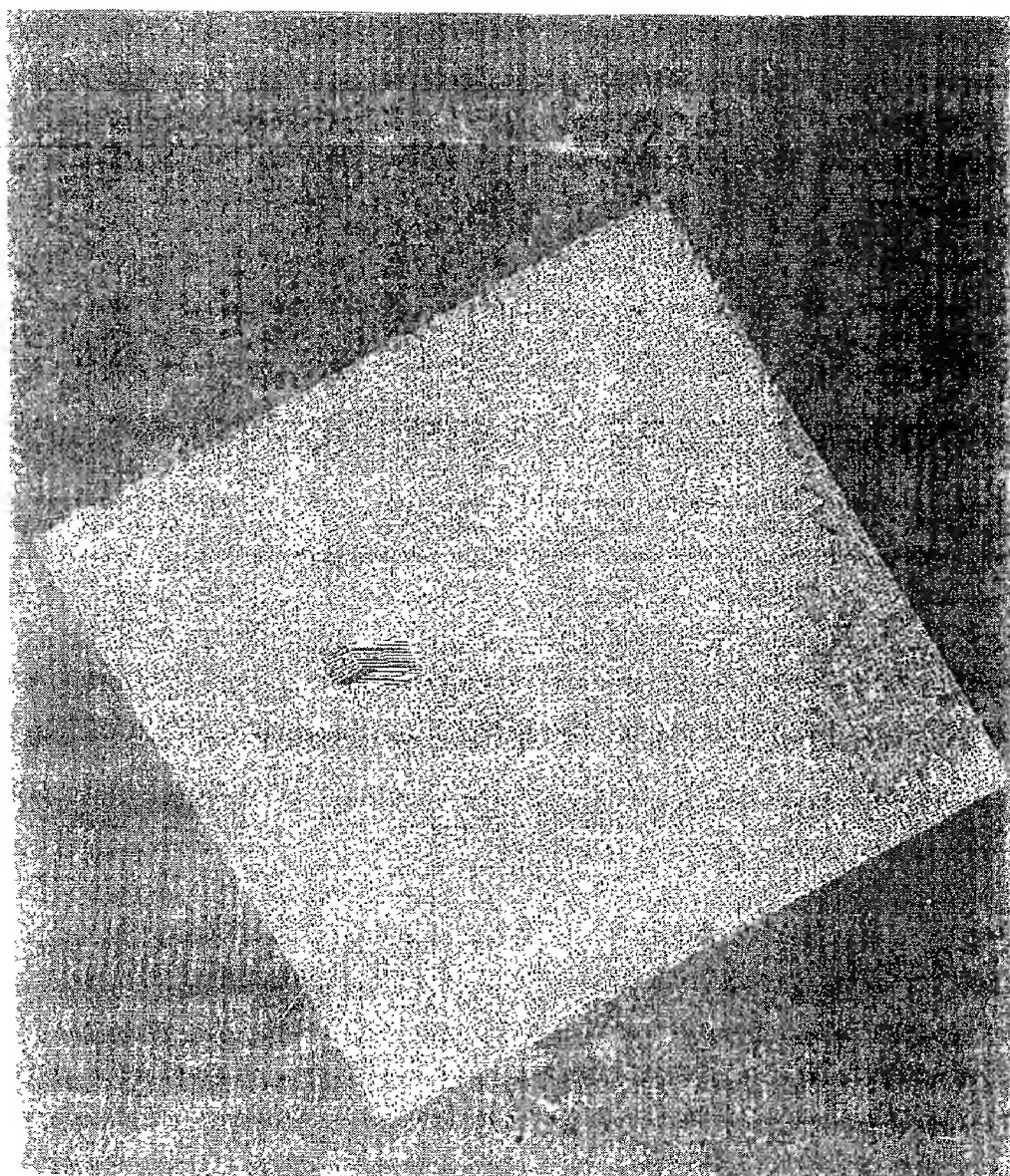


FIG. 5a

Diagram illustrating a quantum communication setup. A vertical line on the left represents a source. A wavy line (photon) travels from the source to a target. The target consists of two qubits, labeled 5 and 3'. The probe consists of two qubits, labeled 3' and 5. The target and probe qubits are arranged in a 2x2 grid. The top row contains qubit 5 and qubit 3'. The bottom row contains qubit 3' and qubit 5. The target qubits are labeled 'TARGET' and the probe qubits are labeled 'PROBE'.

A line graph showing the relative binding affinity of the 5'-GGGAG-3' sequence with various mismatches at positions 1, 2, 3, and 4. The y-axis is labeled 'REL. BINDING AFFINITY' and the x-axis is labeled 'MISMATCH POSITION'. The data points are as follows:

| Mismatch Position | Relative Binding Affinity | Sequence |
|-------------------|---------------------------|----------|
| 0 | 1.0 | GGGAG |
| 1 | ~0.8 | GGGAG |
| 2 | ~0.6 | GGGAG |
| 3 | ~0.6 | GGGAG |
| 4 | ~0.8 | GGGAG |

A line graph showing the relative binding affinity of the 5'-TGGT-3' sequence with various mismatches at positions 1, 2, 3, and 4. The y-axis is labeled 'REL. BINDING AFFINITY' and has a tick mark at 1. The x-axis is labeled 'MISMATCH POSITION' and has tick marks at 1, 2, 3, and 4. The data points are connected by a smooth curve. The points are labeled with their respective mismatch sequences: yxyx at position 1, xxyx at position 1, yyxx at position 2, yxxx at position 3, and yxyy at position 4. The affinity starts at 1 for yxyx, decreases to a minimum around position 2-3, and then increases slightly at position 4.

| Mismatch Position | Sequence | Relative Binding Affinity (approx.) |
|-------------------|----------|-------------------------------------|
| 1 | yxyx | 1.0 |
| 1 | xxyx | 0.8 |
| 2 | yyxx | 0.5 |
| 3 | yxxx | 0.5 |
| 4 | yxyy | 0.8 |

FIG. 6C

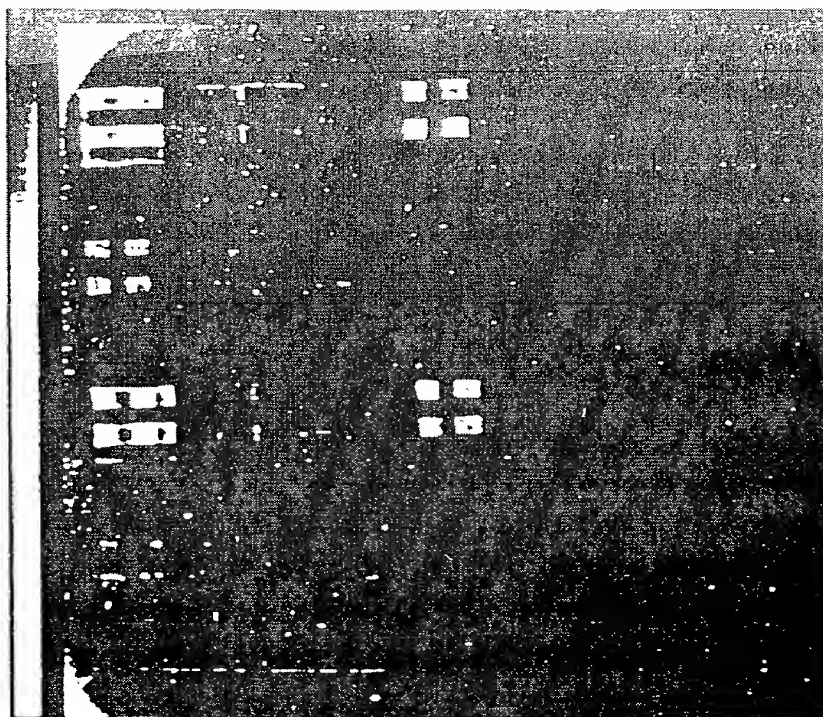


FIG. 7

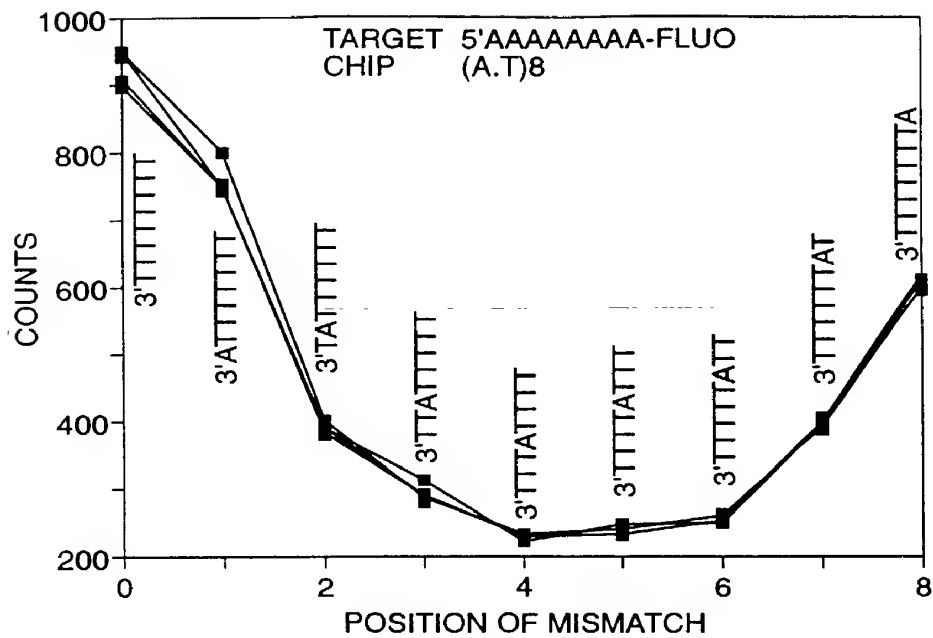


FIG. 8

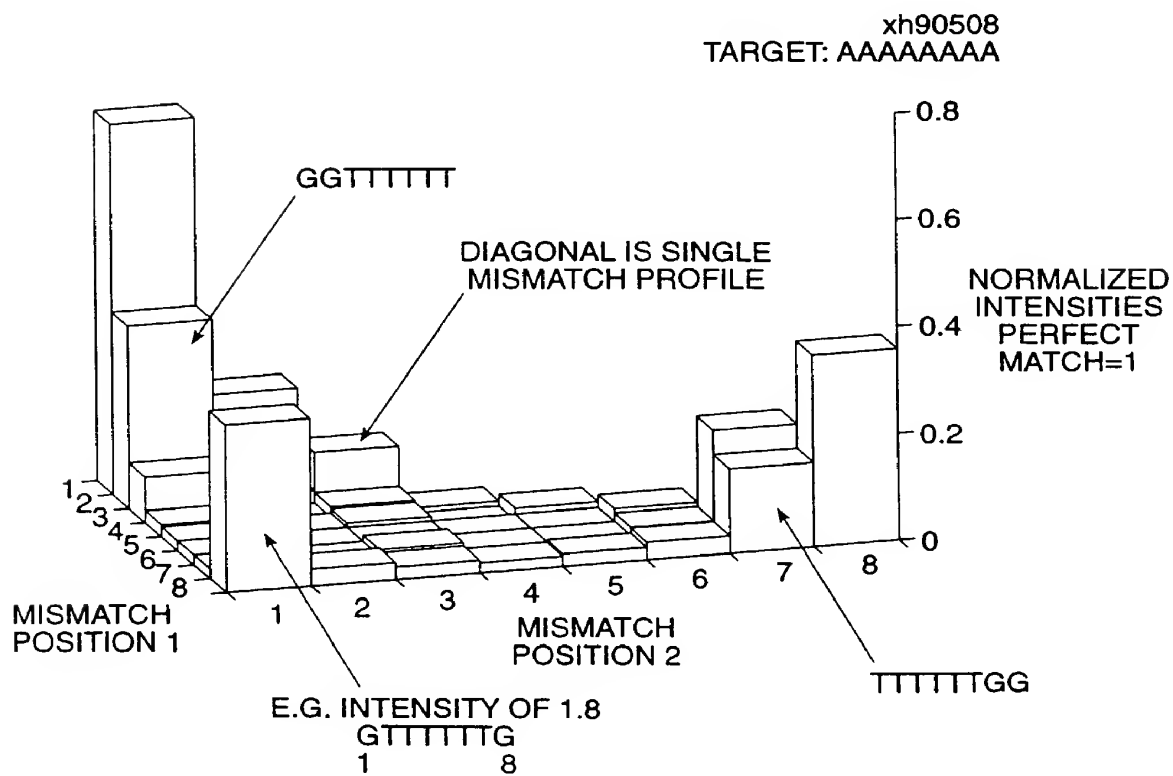


FIG. 9



FIG. 10

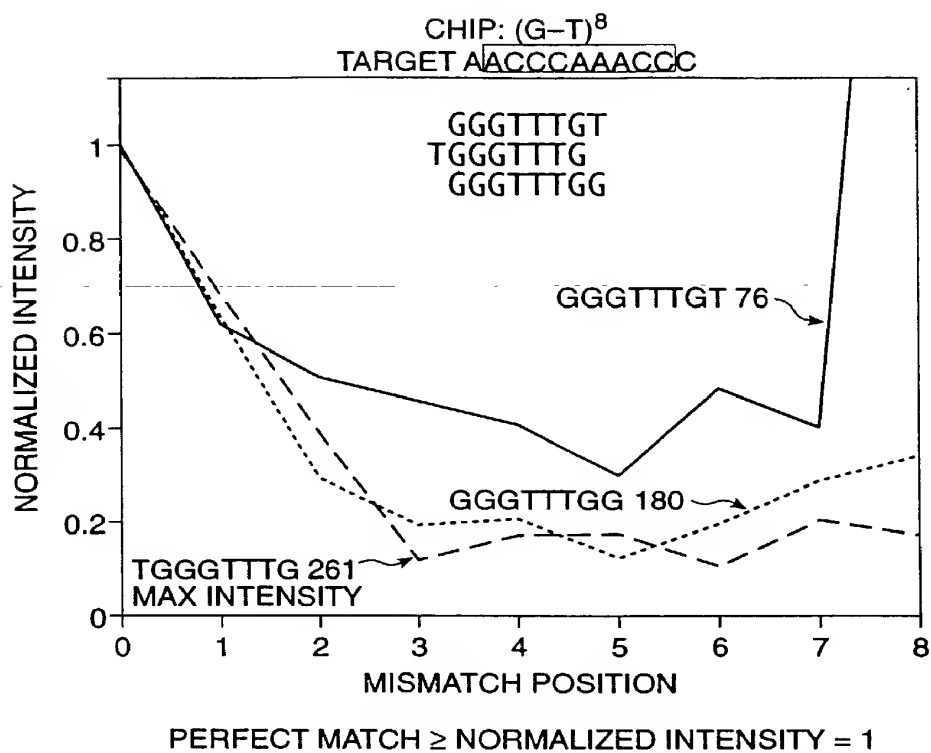


FIG. 11A

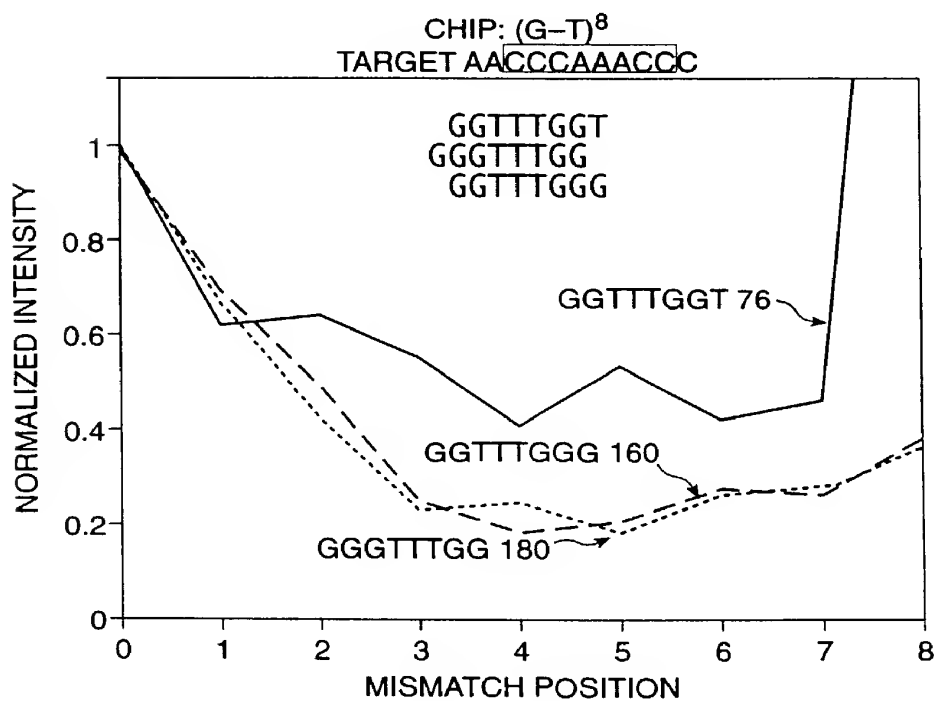


FIG. 11B

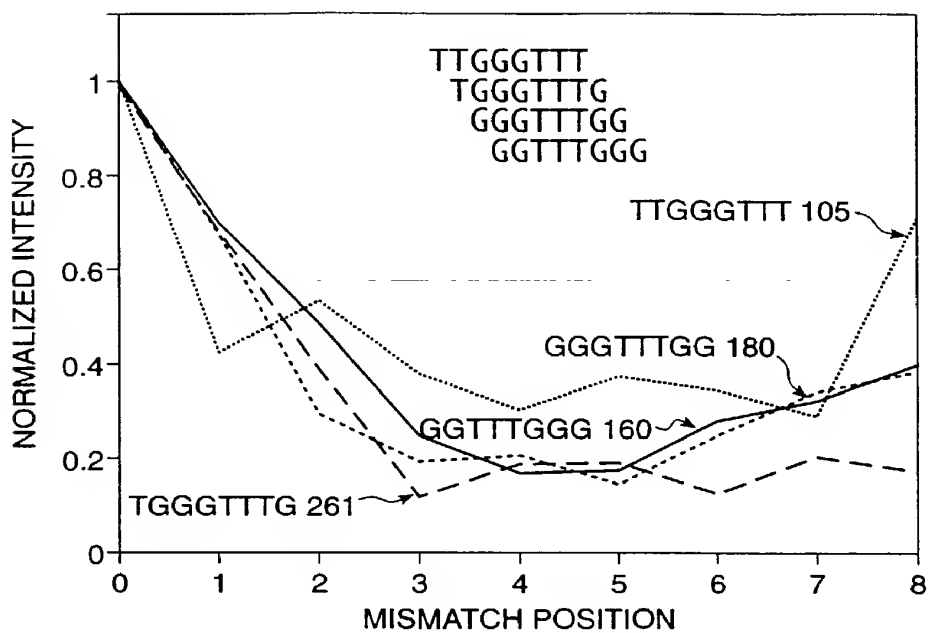


FIG. 11C

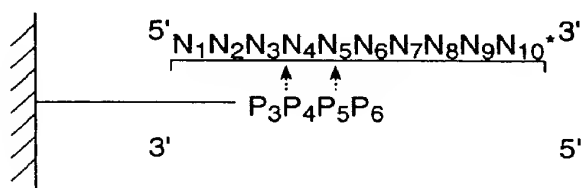


FIG. 12A

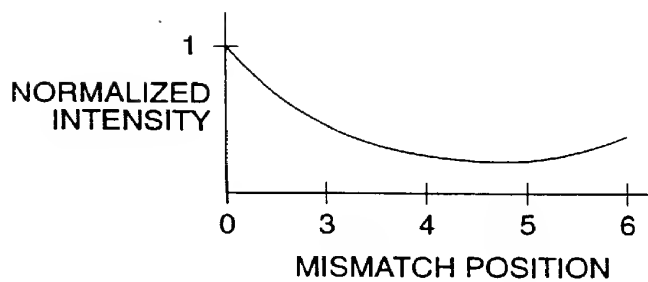


FIG. 12B

$A P_3 P_4 P_5$
 $T P_3 P_4 P_5$
 $C P_3 P_4 P_5$
 $G P_3 P_4 P_5$

FIG. 12C

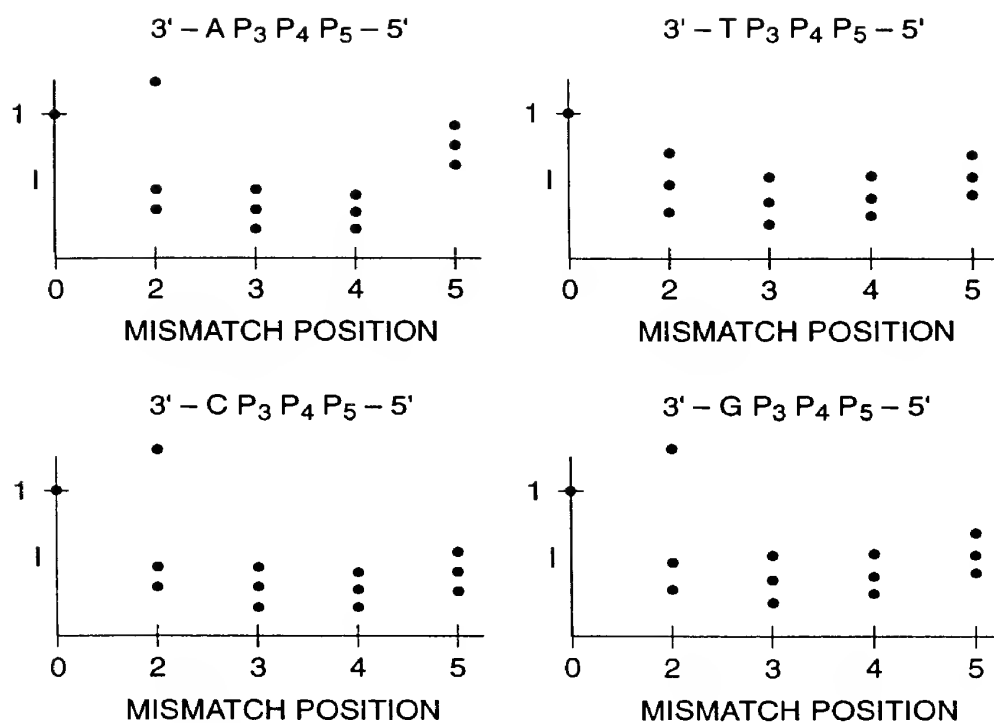


FIG. 12D

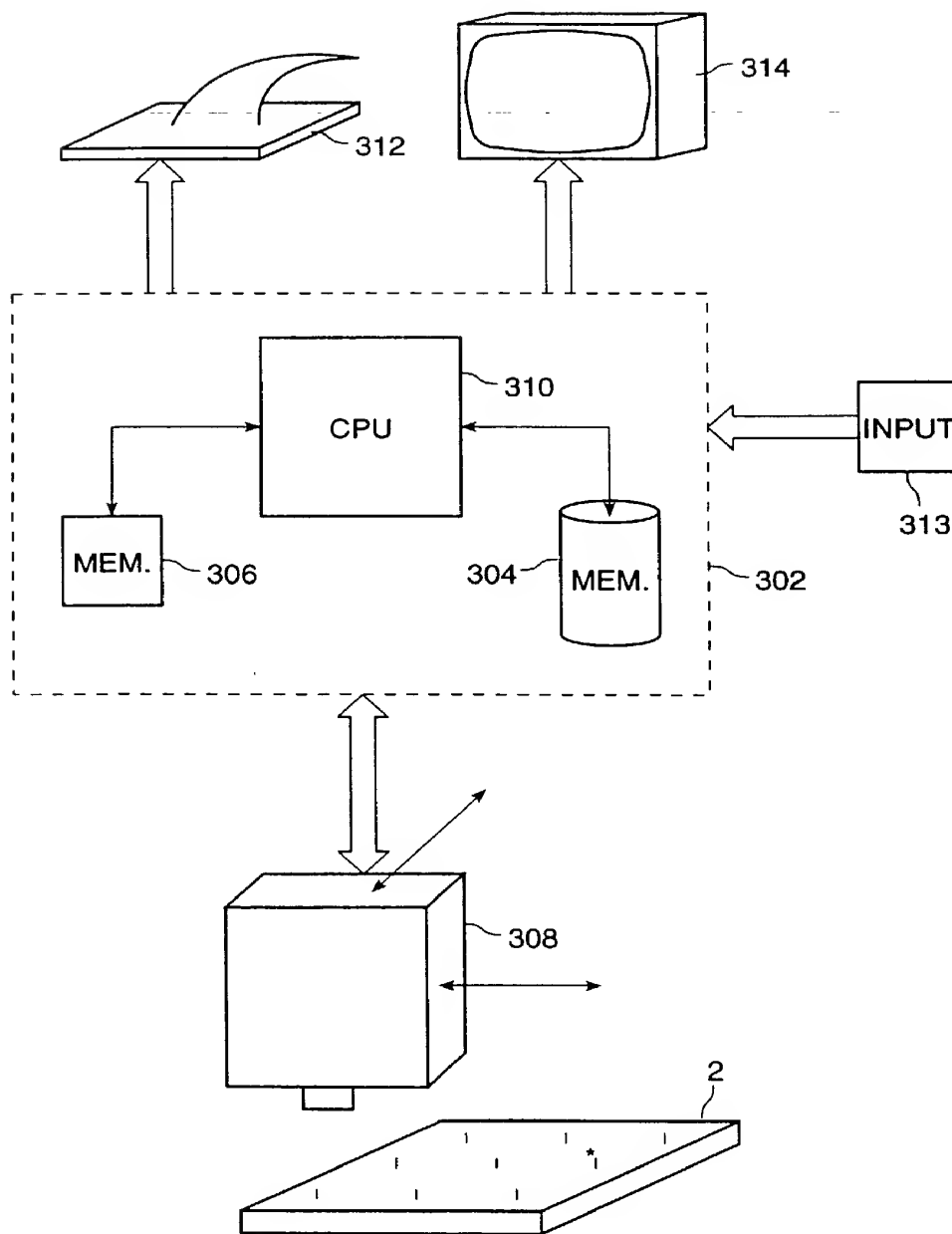


FIG. 13

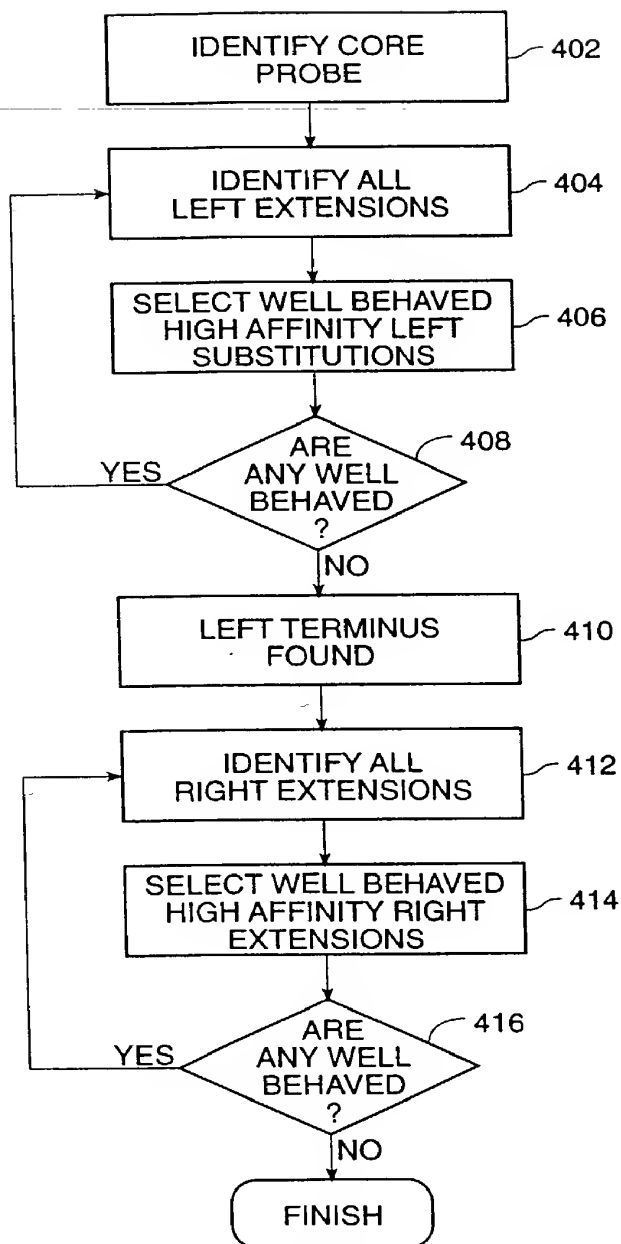


FIG. 14

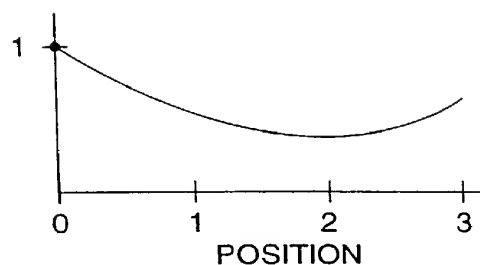


FIG. 15A

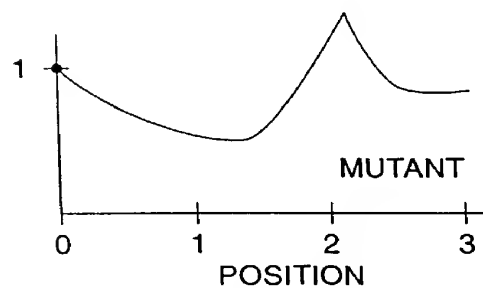


FIG. 15B

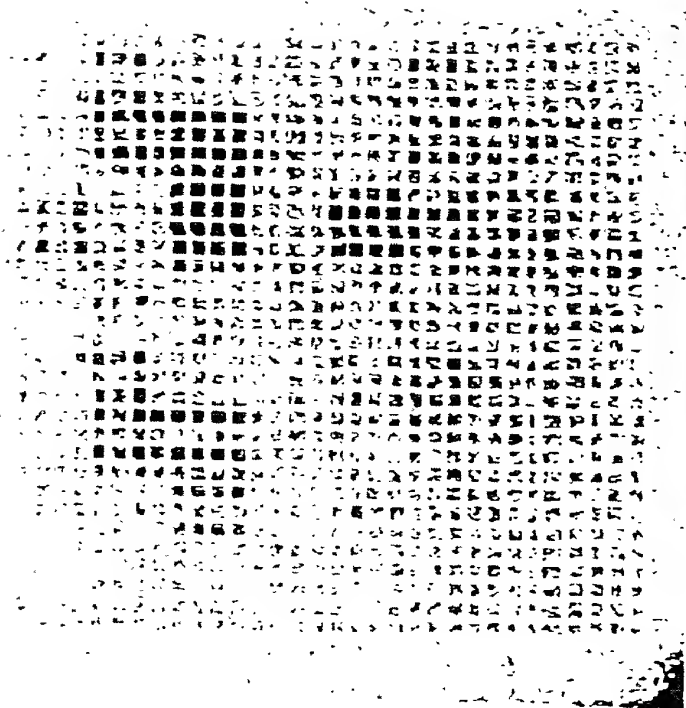


FIG. 16

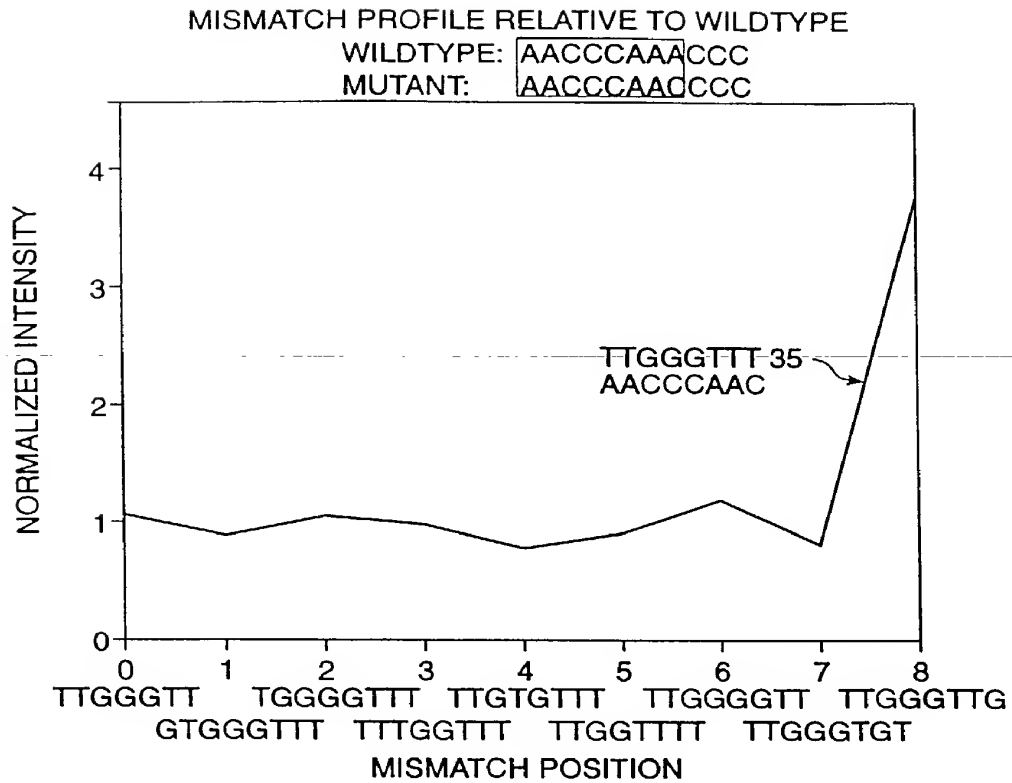


FIG. 17A

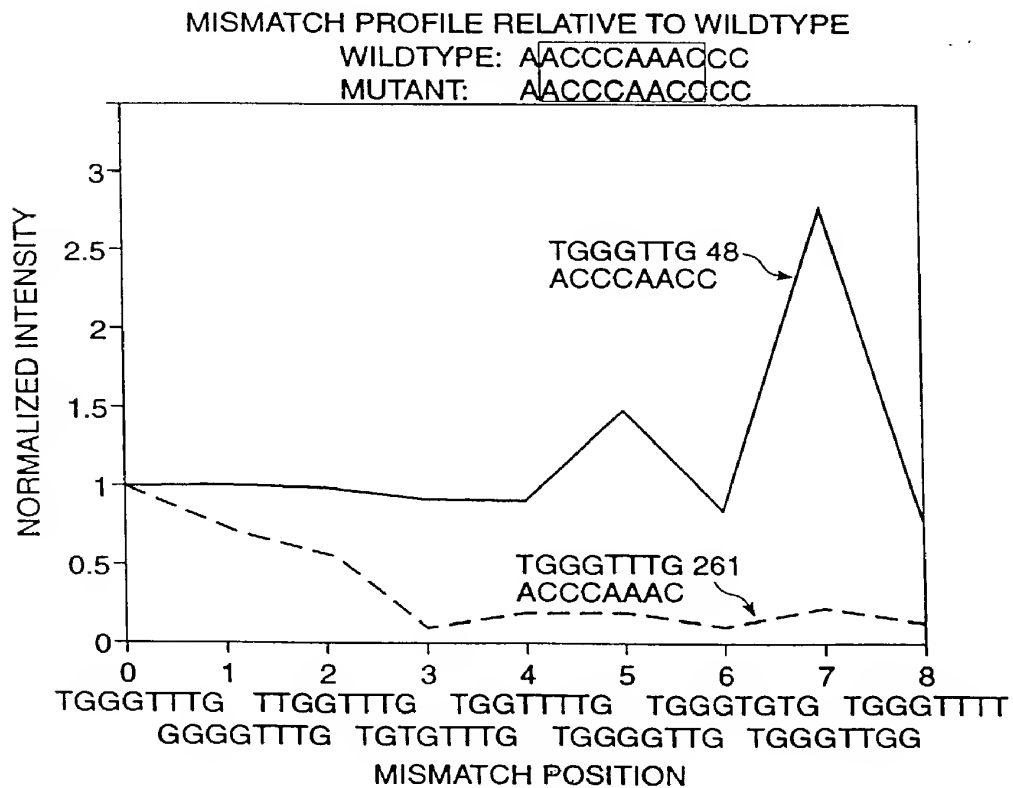


FIG. 17B

CHIP: (G-T)⁸ xh91530
TARGET: AACCCAACCCC

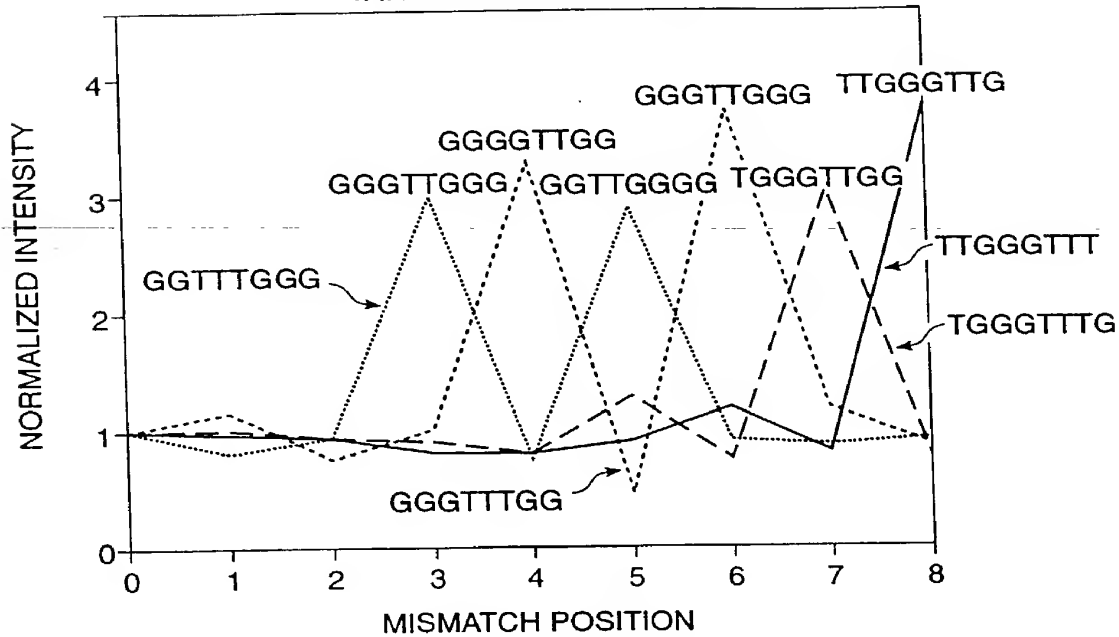
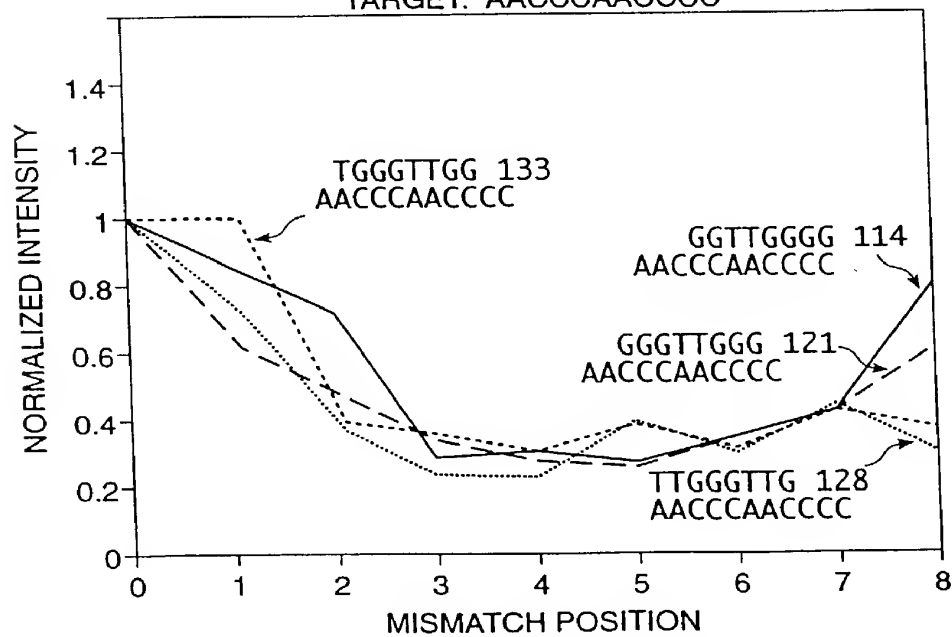


FIG. 17C

CHIP: (G-T)⁸
TARGET: AACCCAACCCC



PERFECT MATCH \geq NORMALIZED INTENSITY = 1

FIG. 17D